

Minutes
Energy, Environment and Technology Interim Committee
July 12, 2011

Cochairman Senator Curt McKenzie called the meeting to order at 9:05 a.m. Members present included Cochairman Representative George Eskridge, Senator Russ Fulcher, Senator Steve Bair, Senator John Tippets, Senator Elliot Werk, Representative Maxine Bell, Representative Bert Stevenson, Representative Eric Anderson, Representative Jeff Thompson and Representative Wendy Jaquet. Ad hoc members present were Senator Dan Schmidt and Representative Brian Cronin. Senator Patti Anne Lodge and Representative Reed DeMordaunt were absent and excused.

Others present included Lynn and Brenda Tominaga, Idaho Ground Water Appropriators; Lisa Young, Amie Hernandez and Ken Miller, Snake River Alliance; Sarah McCormack, Idaho Water Users; Lisa LaBolle, Idaho Strategic Energy Alliance (ISEA); Ron Whitney, NW Energy Coalition; David Hawk; Jane Wittmeyer, Clearwater Paper Corporation; Bjorn Doskelund, Windland, Inc.; Russ Hendricks, Idaho Farm Bureau, Paul Kjellander and Marsha Smith, Public Utilities Commission and Kim Parsons, Bridge Energy. Legislative Services Office staff members present were Mike Nugent, Ryan Bush and Toni Hobbs.

Senator McKenzie reviewed HCR 4 that authorizes the Energy, Environment and Technology Interim Committee to undertake and complete a study of the 2007 Integrated State Energy Plan and make recommendations necessary for changes in both state law and the plan regarding energy in the state and to monitor other energy, environment and technology issues.

Dr. Steve Aumeier, Director of the Energy Systems Division of the Idaho National Laboratory addressed the committee as the Executive Director of the Idaho Strategic Energy Alliance (ISEA).

Dr. Aumeier explained that the ISEA was created by executive order in early 2009 by Governor Otter. He stated that the fundamental purpose of the ISEA is to develop analyses, assess options, and provide advice for executing the 2007 Idaho energy plan.

Dr Aumeier noted that almost 18 months ago, Administrator Kjellander of the Office of Energy Resources and Commissioner Kempton of the Idaho Public Utilities Commission provided a detailed report on progress within the State in meeting goals and objectives contained in the plan. That report outlines the progress that has been made in meeting the policy objectives outlined in the 2007 plan and the role of the ISEA in these endeavors.

Today the ISEA includes over 150 members with broad and varied professional expertise that is critical to engage in creating our State's energy future. The ISEA includes a leadership Council comprised of leadership from many State agencies; a Board of Directors comprised of executives from major utilities, major industrial energy consumers, agriculture, law, academia, the Idaho Public Utilities Commission (PUC), the Office of Energy Resources (OER) and the Idaho National Laboratory (INL).

Dr. Aumeier added that the core of the ISEA is the 130 volunteers that serve as experts on 14 different working groups or task forces. These task forces have produced reports detailing opportunities and challenges associated with wind, geothermal and hydro-electric generation; in energy efficiency, biofuels, biogas, forestry economic development and carbon issues. There are also three additional reports in progress focused on solar, baseload generation and transmission issues.

Dr. Aumeier explained that the group focused on communications has developed the “Idaho Energy Primer.” This is an excellent resource for Idaho citizens to better understand the basics of energy and how it impacts their daily lives. He said that the Board believes that one of the most important tools for shaping Idaho’s energy future is a strong understanding of energy fundamentals by Idaho citizens and stakeholders. It is the opinion of the ISEA that Idaho has an opportunity to lead the nation in “energy IQ.”

The Task Force on Energy Efficiency Leaders, the ISEA Board of Directors and other stakeholders organized an Industrial Energy Forum comprised of over 40 corporations that share information and collaborate in efforts to produce more with less energy. **Dr. Aumeier** recognized Mr. Stace Campbell, McCain Foods; and Mr. Don Sturtevant, JR Simplot Company for their initiative and leadership in organizing this group of industry leaders.

He also recognized Coordinating Director Lisa LaBolle, Office of Energy Resources and Technical Director Bob Neilson, recently retired from INL; for the hard work they do in day to day coordination, technical direction and follow-up with task forces, state agencies and stakeholders.

Dr. Aumeier went on to say that this well developed stakeholder group is in a very good position to assist the committee in reviewing and revising the state energy plan.

At the board meeting on Friday, **Dr. Aumeier** said the ISEA Board, several council members, task force leadership and other stakeholders discussed the Energy Committee’s request for assistance in reviewing the energy plan. He said that they commend the committee for tapping into this group of experts for assistance.

Following are suggestions from the ISEA on how to move forward:

1. Review and revise the 2007 plan to update items that have been completed, have changed structurally, or otherwise need modification.
2. Add further recognition of what has been learned since plan was created; what has and has not worked. Where the practical economics of various approaches lie and what are the roadblocks to meeting plan goals. This step would also include the risks and uncertainties including regulatory changes, aging infrastructure and the evolution of technology. **Dr. Aumeier** noted that evolution is very important because things are changing so quickly. He also noted that there is a need to expand the considerations in the transportation section of the plan because transportation accounts for over ¼ of the energy Idahoans consume and a large portion of the energy dollar that we spend.

3. That the policy recognition of energy and consideration of the energy/economic connection that is already in the plan be enhanced.

Dr. Aumeier said that the board sees three pillars of Idaho's energy future:

1. Maintaining and enhancing access to stable, secure, sustainable and affordable energy supply for Idaho citizens and businesses. **Dr. Aumeier** said that this is a tall order due to the fact that the energy markets are changing, the regulatory market is changing and technologies for production, transport and use are changing.
2. Figuring out how to extract the most economic advantage from energy systems, technologies and markets. According to **Dr. Aumeier** this is all about high value, low footprint jobs.
3. Providing Idaho citizens with a sound understanding of energy fundamentals (energy IQ). Everyone needs to realize there is no free lunch and that using energy wisely is the best, lowest cost option to meeting energy demand. **Dr. Aumeier** added that in order to grow the economy, it still requires enormous amounts of affordable energy, even though it is used wisely.

Dr. Aumeier emphasized that, with regard to the energy plan, the ISEA can make the necessary basic modifications, add structural recognition of an expanded focus on energy and economic development, and recognize near and long-term risk and opportunity, and account for what has been learned in the past four years for the committee in the next two to three months.

He also suggested that while reviewing the energy plan is necessary, there is more benefit to be gained going forward. The ISEA would like to see this type of review being done on a continuous basis to make the energy plan a true living document.

Senator McKenzie asked whether the ISEA had discussed how go about making recommendations regarding the three pillars and how they would interact with this committee to implement the recommendations. **Dr. Aumeier** said they had discussed this and have several recommendations ready to move forward. He said the best way to get information to the committee quickly is to sit down with task force members and board members and discuss what the critical elements of three pillars are. He added that the ISEA can undertake review of the plan very quickly and get that information to this committee to make sure they are on the right track. It is important to engage task force groups more broadly to see what is already included in their reports.

Senator Fulcher commented that he had received information from an automobile alliance regarding the future of the automobile industry and federal requirements for automobiles to have average fuel mileage of 35.5 miles per gallon by 2016. This will make electric vehicles much more prevalent. He asked whether the ISEA had discussed how this change will affect energy grid and its ability to handle the increased use of power. **Dr. Aumeier** said this comes back to how quickly technology will be adopted and thinks there is an interim step for 2013 as well. This is already impacting vehicle technologies. The electrification of the vehicle fleet is a serious consideration and Idaho utilities have looked at this. **Dr. Aumeier** went on to say that this should be taken consideration and planned for but they need to be realistic as to impact of electric

vehicles. This is another example of how technology will influence our thinking regarding energy.

Senator Fulcher asked whether creation of technology to handle an electric energy vehicle fleet and the increased production of energy would actually offset the gains in reduction of the carbon footprint. **Dr. Aumeier** said that INL is at the forefront of testing vehicle and battery technologies and this is an enabling factor in new transportation modes. In his opinion, the gains depend on what generation source is used (where energy comes from). He said they need to be careful in choosing energy generation sources. In general, electricity is an efficient way to power automobiles but there are grid limitations. This comes back to the energy IQ and the balances and trade-offs to these approaches.

In response to a question from **Senator Werk**, **Dr. Aumeier** said he was not suggesting the ISEA take ownership of the energy plan. His vision is that the ISEA would advise and provide data and assessments to this committee.

Senator Werk asked for more information regarding the structure of the ISEA. **Dr. Aumeier** clarified that the ISEA was created by executive order in 2009. Leadership includes members of the governor's cabinet and heads of state agencies. It is housed in the Office of Energy Resources and the Board of Directors report to the council while the task force groups report to the board.

Dr. Aumeier continued that the task force reports are reviewed by the board and feedback from the board is given back to task groups. He said they strive for neutrality and that the recommendations from task force groups, even though they are not necessarily unanimously agreed upon by board, end up in the final report even though not all of them are agreed upon by the board.

In response to another question from **Senator Werk** regarding updating the data contained in the energy plan, **Dr. Aumeier** stated that the ISEA's structure and depth provides that precise opportunity. He said this would not be a quick process and that he thinks it should be a continuous event going forward with guidance from the interim committee. He added that a lot of the data is already in various task force reports.

Senator McKenzie commented that, in his opinion, the energy plan structure is in a useful format and asked what the recommendations from the ISEA would look like. Would they be higher general policy recommendations or specific action items. **Dr. Aumeier** said the ISEA has had some discussion but needs further development and direction from interim committee. He thinks structure of plan is valuable and logical. The high level policy recommendations are fundamental guidelines and those are most important.

Representative Cronin asked whether the ISEA feels that the current plan gives enough attention or emphasis to the three pillars mentioned earlier. **Dr. Aumeier** said he does not believe that the 2007 plan missed any component of the three pillars. The focus of the 2007 plan is the same as the first pillar. That is access to sustainable, affordable, stable energy supplies. The linkage of energy and economic development is included in the plan but the ISEA feels that since

things have changed so much since 2007, it would be useful to expand upon this and have greater emphasis on it. He added that the energy education piece is actually embedded in the 2007 plan even though it is not specifically stated.

Representative Eskridge asked whether the ISEA plans to do an in-depth tradeoff analysis on which energy resource might be more appropriate in the pursuit of a stable energy supply. **Dr. Aumeier** said they would provide data concerning positives and negatives on both sides for different resources and let others make more informed decisions. This is what their task force groups focus on. He noted that there is good information available from the Electric Power Research Institute that compares and contrasts different resources.

Senator McKenzie said that information like this would be very useful because the committee does not have the expertise or staff to determine what resource would be the most valuable. He commented that five years ago they had no idea how many people would be using electric vehicles. He said that since the committee does not have the expertise necessary to make these decisions on their own, it will be important to rely on the ISEA to provide data to help the committee develop policies. **Dr. Aumeier** said this is exactly the tool the ISEA strives to create.

Dr. Aumeier reiterated that in developing policy construct no option is a free lunch. There are positives and negatives in everything we do regarding energy. The question is what are tradeoffs or options and what is the focus in terms of energy and economic development.

Representative Eskridge asked for a time frame in which the ISEA could begin making recommendations to the committee. **Dr. Aumeier** said they could provide a draft with major highlights in six to eight weeks and they could meet with committee to modify and add data in a four to five week time frame. This will provide input that will be valuable in consideration of broad policy construct and specific actions that could be further advanced later with public hearings.

Representative Anderson suggested that as the ISEA develops pros and cons, they be delivered to committee members before an actual meeting is scheduled. **Dr. Aumeier** said that ISEA members located in different areas of the state would be willing to provide first hand briefings to committee members at any time.

Representative Anderson also asked for more detail regarding the expansion of the transportation subject matter from the 2007 plan. **Dr. Aumeier** said that it should include recognition of issues similar to what **Senator Fulcher's** questions brought up including policy and technology changes and the discussion of how those changes might impact the energy systems in the future. It should also include consideration of what opportunities this affords people within the state regarding jobs and the like.

In response to another question from **Representative Anderson** regarding decisions made in the past regarding ethanol, **Dr. Aumeier** said that the ISEA could find expertise to provide dialogue and discussion of the pros and cons of the ethanol decision. **Senator McKenzie** said he would appreciate the ISEA looking at where the committee made policy in 2007 and where changes might be necessary.

Representative Eskridge asked what activities does that ISEA plan to take regarding the siting of transmission facilities and with natural gas exploration. **Dr. Aumeier** said that is a significant topic within the task force. There is one task force dedicated to energy transmission issues which includes siting. Their report is still in progress because siting is linked to other issues. Those recommendations should be available very soon.

Senator McKenzie thanked **Dr. Aumeier** and said that the committee is looking forward to working with the ISEA in reviewing the 2007 energy plan.

Mr. David Hawk was introduced to discuss changes and considerations in the natural gas marketplace. His complete PowerPoint presentation is available at:
<http://www.legislature.idaho.gov/sessioninfo/2011/interim/energy.htm>

Mr. Hawk also introduced Lisa LaBolle and Robert Nielsen and commented that they are the ones that keep the ISEA on task and in line.

In response to **Senator Werk's** question regarding ownership of the energy plan, **Mr. Hawk** said that rather than the ISEA taking ownership of the plan, they would just be putting flesh on the existing bones of the plan with legislative approval.

Mr. Hawk went on to discuss natural gas. He said that the results of the Potential Gas Committee last biennial assessment indicates that the United States possesses a total resource base of 1,898 trillion cubic feet (tcf) of natural gas that is recoverable. This is the highest resource evaluation in the Committee's 46 year history and most of this increase came from the reevaluation of shale-gas plays in the Mid-Continent, Gulf Coast and Rocky Mountain areas. He explained that the United States uses 22 tcf of natural gas (plus or minus) annually. He explained that 226 million barrels of oil equivalent (BOE) is the amount of energy the world uses in a day and 200 million BOE is what the world uses in natural gas, liquid hydrocarbons and coal. This means that 200 BOE of the 226 BOE used daily is pure hydrocarbon. This means that we are not going to replace use of hydrocarbons in the world in next 100 years. **Mr. Hawk** said that we have 100 years of natural gas if consumption does not increase and the price stays high enough that it is still economical to look for. He commented that everyone is looking for that next quantum leap technology

Mr. Hawk explained that proved reserves include known gas reserves, existing economic conditions and existing operating conditions while resources include discovered known resources, undiscovered resources, the effects of technology and the effects of economics.

Mr. Hawk explained that natural gas resources are readily available in the U.S. and in the northwest. With regard to what our nation's natural gas resources are, **Mr. Hawk** read a quote from Dr. John B. Curtis as follows:

- Our knowledge of the geological endowment of technically recoverable gas continues to improve with each assessment. Furthermore, new and advance exploration, well drilling and completion technologies are allowing us increasingly better access to domestic gas

resources – especially ‘unconventional’ gas – which, not all that long ago, were considered impractical or uneconomical to pursue.”

- “Consequently, our present assessment demonstrates an exceptionally strong and optimistic gas supply picture for the nation.”

Mr. Hawk said that the search for hydrocarbons begins with the analysis of:

- A geologic basin where predominantly marine sediments were deposited.
- A source rock was present which had a high total organic carbon content.
- A reservoir rock with porosity and permeability was present.
- A cap rock that was very tight and would prohibit the hydrocarbons in the reservoir rock from escaping.
- A structural or stratigraphic trapping condition which allowed the hydrocarbons to migrate from the source rock into the reservoir rock and be trapped and stay there.

The unconventional search includes:

- Coal bed methane, drilling and fracturing the coal seams to free the molecules of methane that were attached to the platelets of coal.
- Shale gas, the source rock of the conventional search becomes the reservoir and source rock all in one. The low permeability allows the gas to be trapped in and around the shale size particle of the formation.
- Tight sands gas, formations where the dominant lithology is silt and sand size particles. The rock has a low permeability and often low porosity. It is tight.

Mr. Hawk explained that price increases in commodity and new technology have made unconventional natural gas plays a reality. Technology has changed in the way unconventional wells are drilled, analyzed through seismic and advanced logging techniques, and are completed. The higher price received by the producer for the commodity has allowed very costly, massive, stimulation completions to be employed, freeing large amounts of gas trapped under very high pressures. The ability to drill 15,000 feet vertically and then 30,000 feet horizontally and all combinations thereof have allowed large amounts of subsurface reservoirs to be exposed to the borehole from one surface location. Drilling large numbers of wells from a single drilling pad or drilling area has reduced environmental impacts and costs.

Mr. Hawk stated the biggest mission in the natural gas industry today is meeting customer demands while meeting the producers economic requirements. He said pricing is all about constants and variables for both consumers and producers.

Mr. Hawk stated that a few years ago there was talk about the need for 10 billion cubic feet per day import capacity. Today we have that capacity but are only using 1.1 bcf on average. This is due to the shale gas.

Mr. Hawk’s complete presentation goes into more detail regarding natural gas supply and transportation considerations. The presentation also includes maps and graphs depicting the location of shale gas plays and its potential future growth.

Mr. Hawk went on to say that he would like to have seen some stimulus money go to natural gas filling stations up and down the freeways and converting the nation’s truck fleet to liquefied

natural gas or compressed natural gas. Doing this would not only reduce air emissions, it would reduce the amount of imported oil to the U.S. by 1 to 2 million barrels per day. He noted that wind and solar are intermittent and natural gas and hydro are necessary to shape wind. In his opinion, natural gas has much more flexibility than hydro. He also stated that nothing displaces consumption as much as conservation and efficiency.

Mr. Hawk concluded by stating that we will continue to be a hydrocarbon society for at least 50 years. He hopes low-cost solar will be the next energy source and said that gas hydrates (gas locked with ice and water crystals) will be beneficial in the future. This has the potential to have 20,000 to 60,000 tcfs. He said this is probably the next quantum leap technology.

Mr. Hawk emphasized that natural gas will be the source that provides needed electricity in the future instantaneously. He added that the price would be about double without the development of shale gas. He said that 69 bcf of shale gas is being produced daily and this has also expanded natural gas storage.

Representative Cronin commented that stimulus money was spent to build two new natural gas filling stations in Boise and Nampa.

Representative Cronin expressed concerns about fracking and what is done with the water and chemical mix as it comes out of the wells. **Mr. Hawk** explained the fracking process. The water and chemical mix is used after the well is drilled if necessary to break the rock apart. In Idaho these fracks are not very big. At the same time the fluid is pumped in, quartz sand particles or small ceramic balls of a particular size are also put into the fracks to keep them from healing. This additional porosity creates a way for the gas and/or oil to flow into the fracks and into the bore hole. The average cost in North Dakota is about \$6.5 million to produce a horizontal well. He explained that this technology has been used for many years and it has improved over time. The concern is keeping the chemically treated water out of the fresh water zone. **Mr. Hawk** said that they try to reuse the chemically treated water but, if that is not possible, it is taken to a sanitary dumping area for disposal. He said that Idaho is a candidate for small well stimulation, not multi-stage fracking on the larger scale.

Mr. Hawk said that many people are opposed to fracking simply because the technology has discovered a natural gas resource that allows continued use of hydrocarbons for much longer than they wanted. He said there are 3,600 horizontal wells being drilled in US today and 75,000 will be drilled this year with multi stage fracks. In his opinion, this is an industry that deserves a tip of the hat but also needs to be challenged to do better from an environmental and economic standpoint with respect to the environment.

Representative Cronin asked whether the rectifying of some of the issues associated with fracking will change projections and pricing. **Mr. Hawk** answered that some people are continuing to drill regardless of price to hold their leases. This is slowing down because the price of natural gas is below the \$5 threshold. He emphasized that doing this the correct way has not added a lot of increased costs and that most in the industry want to do it the right way. There are wells that were drilled in 1800s that are still producing.

In response to a question from **Representative Eskridge** regarding emissions associated with electric cars rather than converting the cars directly to natural gas, **Mr. Hawk** agreed there are still emissions associated with electric cars and the production of electricity to run them. He said that people see electricity as having greater ease and there are peripheral issues that make electricity more efficient for vehicles. To get the electricity will require peaking units fired by natural gas. He said there is no other shaping energy available at this time. That is the exciting thing about the increased natural gas available. **Mr. Hawk** commented that there are people looking at developing technology to convert natural gas to gasoline.

Representative Anderson commented that 100 years of natural gas availability is not very long and that 80% everything manufactured uses hydrocarbons. He asked whether this is the best use of natural gas. **Mr. Hawk** said he would like to be around in 2111 to see where we are then. He said that with gas hydrates, there will be much more natural gas and that, in his opinion, there will be continued discovery of natural gas that will extend that 100 years well into the future. According to **Mr. Hawk** it is ok to use natural gas to produce electricity because it is cleaner and has less pollutants than coal. He thinks coal will become less and less popular over time.

Representative Anderson said he is a fan of natural gas but wondered how will this use of natural gas to produce electricity will affect the many people whose homes are heated with natural gas. **Mr. Hawk** said that natural gas is currently at a surplus and said this question brings up an issue that needs to be studied further. **Mr. Hawk** said he thinks will be plenty of natural gas available regardless and commented that nuclear saves natural gas for what it does best (heating, hot water and cooking).

In response to a question from **Senator Bair** regarding how long the natural gas surplus will last and where will prices go, **Mr. Hawk** recommended this committee have Idaho Power present their IRP plan and explain what they plan for in the future. **Mr. Rich Hahn, Idaho Power**, said he would be happy to put such presentation together for the committee.

Representative Eskridge agreed with **Representative Anderson's** statement that 100 years is not a long time and that as use increases and development increases we may still lose ground. He added that we also want to use more wind but wind requires more natural gas plants to shape the wind. He questioned the value of this while also diminishing the need to develop other firming resources such as coal and nuclear. **Mr. Hawk** said the U.S. is a number of years away from a carbon tax or cap and trade. He believes that the era of clean coal has yet to come and no one wants to invest money to test that, CO2 is too big of an issue. He noted that nuclear should be an option as a legitimate resource and agreed that there has been a pushing back of technology for other resources in order to use natural gas. He added that hydro is also an excellent way to shape wind.

Mr. Hawk concluded by saying that this committee seems to be asking the right questions and seems to be on the right track.

Senator McKenzie clarified that the plan for this committee was to get recommendations from the ISEA and have meetings and public input and then decide what amendments to make to the energy plan.

In response to a question from **Senator Bair**, it was explained that the ISEA members work on a volunteer basis.

Senator Werk asked how many meetings they plan to have and whether they would be in Boise. **Representative Eskridge** said they would be held in Boise but will be pretty involved. There would be possibly four more meetings, one in conjunction with the energy conference hosted by the Association of Idaho Cities.

Senator Werk asked what the process would be for public input. **Senator McKenzie** stated that the plan is to get a lot of comments and opinions before deciding on the final document. His vision is to hear from various stakeholders and have a public forum for the final draft before the committee makes any final decisions. **Representative Jaquet** said she would like to get copies of the draft reports from the ISEA before committee meetings so committee members could review them ahead of time.

Commissioner Marsha Smith Idaho Public Utilities Commission (PUC) spoke to the committee regarding rate making. She commented that the PUC speaks through written orders and what she is saying is not necessarily the opinion of the PUC.

Commissioner Smith reminded everyone that some things have to have electricity and that electricity cannot be stored. This means that at every moment in time the amount of energy used has to equal the amount being generated or the system will crash. She added that people in the U.S. should be very grateful for having best and most reliable system in the world.

Commissioner Smith distributed a handout highlighting the location of the different Regional Reliability Councils throughout nation, service areas of investor owned utilities in Idaho, and the electric co-ops, mutual and municipalities in Idaho. This handout is available at:
<http://www.legislature.idaho.gov/sessioninfo/2011/interim/energy.htm>.

With regard to the Regional Reliability Councils, she explained that the reason the Federal Energy Regulatory Commission (FERC) has jurisdiction over most of the councils (except Texas) is because they are combined in several states.

Investor owned utilities are regulated by the states, FERC and the Securities and Exchange Commission.

Co-Ops, Mutuals and Municipalities are publicly-owned utilities. Rural electric co-ops are regulated by some states and municipalities are mostly regulated by their city councils.

Commissioner Smith noted that there are also some federal power marketing agencies in Idaho such as Bonneville Power Administration (BPA) and the Western Area Power Administration that are somewhat regulated by the Department of Energy and FERC.

Commissioner Smith stated that states regulate the retail and intrastate services.

She also said the PUC is a legislative agency so they only have the power legislature gives them.

She went on to discuss the Federal Power Act that was passed in 1935. It created the Federal Power Commission (now known as FERC). This was initially the licensing authority for hydropower projects. The Federal Power Act enables FERC to also regulate rates and charges for interstate wholesale electric sales. Section 201 of the act denies FERC authority for retail sales of energy. According to **Commissioner Smith**, this has been something that FERC has had to be reminded of in recent years. In response to a question from **Senator McKenzie**, **Commissioner Smith** explained that power sold to an end user constitutes a retail sale.

Commissioner Smith also discussed the following federal acts that deal with energy rates.

The Public Utility Holding Company Act of 1935 (PUHCA) was enacted to remedy the abuses of holding companies. This act was repealed by the Energy Policy Act 2005 but retained the access by states and FERC to financial records. She said this is important because in dealing with rates, the affiliate transactions of the utility are very closely scrutinized due to the potential for abuse.

The Rural Electrification Act of 1936 that provided federal funding for transmission in rural areas through rural electric cooperatives that still exist today.

The Public Utilities Regulatory Policies Act of 1978 or PURPA required that public utilities buy power produced by qualifying facilities that use cogeneration or renewable resources to produce electricity at rates set by state public utility commissions. The rates are to be based on the “avoided costs.” This is the cost the utility avoided by not having to produce the power themselves or to buy it on the market. The goal of having avoided costs and standards is that customers should pay no more for power either way no matter where the utility gets the power.

The Energy Policy Act of 1992 broadened the nonutility ownership of generating facilities. In her opinion the policy goal was to foster a competitive generation market in the United States. This also expanded FERC authority to order the utility to provide wholesale transmission services to nonutility owned generators or, in other words, to the competitive generators because if these nonutility generators had no transmission services to get the power somewhere else, what good would it do them to generate the power. As a result of the FERC issued a series of orders.

In 1996, FERC issued **Order 888** that required all vertically integrated investor owned utilities to file tariffs that provide a price for access to the transmission grid for all qualified users. This also introduced market based rates for wholesale power sales and provided guidance for forming independent system operators (ISOs). The only ISO in the west is in California.

In 1999, FERC issued **Order 2000** to encourage the voluntary formation of regional transmission organizations (RTOs) to administer transmission on a regional basis. This was, in **Commissioner Smith’s** opinion, a local control issue because utilities that joined an RTO had to give up their own system to operation by the RTO. In 2002, FERC wanted everyone to go to an RTO and have a standard market design. The western states, including the western governors, opposed this and that effort ceased. This would have caused a large jurisdictional shift from the

states to the federal government. The states could see no demonstrable economic benefit to such a change, so that effort was terminated in 2005 by FERC.

The Energy Policy Act of 2005 repealed PUHCA and gave FERC expanded authority over electric transmission, reliability and siting of the Regional Reliability Councils. It made standards for operating a transmission system mandatory and greatly increase the penalties for not complying to the standards. This also gave the Department of Energy the authority to designate national interest energy transmission corridors and gave FERC back authority for siting of electric facilities.

The Energy Efficiency and Policy Act of 2007 did not do a lot to affect state public utilities commissions. It includes provisions designed to increase energy efficiency and the availability of renewable energy. This act did not impose a mandatory national renewable portfolio standard.

Commissioner Smith opined that the electric industry is regulated due to the fact that it is a service and is affected with the public interest. Everyone needs electricity. She said there are great economies of scale to be had by having only one provider and we also avoid the duplication of resources such as rights-of-way. What would happen if all power companies put transmission lines in. She explained that the PUC prevents this monopoly from having excess profits while assuring that it does have adequate earnings and is financially healthy and viable. The PUC is also charged with the assurance of adequate, reliable and safe service while setting reasonable rates. Regulation by the PUC is not a substitute for company management. The PUC can only balance what a company has done with what they knew at the time. The company manages itself.

Commissioner Smith explained that with regard to the rate setting process, all utilities are required to provide the PUC with a copy of their integrated resource plan (IRP). She noted that this is the year that they all get filed. The PUC puts out a notice for comments on these IRPs and gives advice if necessary to the utility. The utility is also required to send out a notice of the IRP to its customers at this time. The reports are usually accepted by the PUC. She added that the PUC regulates one company that is not required to submit an IRP and that is Atlanta Power because it is very small. **Commissioner Smith** said this year the PUC has rate cases on all utilities and that she cannot remember when that has happened before.

Commissioner Smith explained that the notice from the PUC contains a time for people to intervene. That means the people with an interest can asked to be a party in the case. When people get intervenor status, they are on the mailing list, they get all of filings and sit in the hearing room and are able to cross-examine and present their own witnesses.

Other steps in the rate case process include:

Discovery

Profile testimony

Ratemaking Definitions

Revenue Requirement

- This formula includes one year of depreciation expense, the annual return on investment, annual operating expenses and annual income taxes

Splitting Revenue Requirement Among Customer Classes

When the PUC issues its orders, if people are unhappy with the decisions, they must send a petition for reconsideration to the PUC. This gives the PUC a chance to fix any actual errors. After this, if they are still not happy, they can appeal to the state Supreme Court. The standard of review for a commission order is whether the decision was based on substantial evidence in the record. **Senator Tippetts** asked what percentage of rate cases are appealed to the supreme court. **Commissioner Smith** said very few; last year they had two appeals due to Idaho Power Rule H which is the provision for extension of services in new areas.

Senator Schmidt asked for the approximate percentage value each of the four items that make up the revenue requirement have to each other. **Commissioner Smith** said that would be different for each company because rate making is company specific. She said she would try to find that information.

Commissioner Smith went on to explain Idaho Power's Power Cost Adjustment (PCA). She noted that Avista and Rocky Mountain Power have similar rate provisions.

With a PCA, the PUC tries to take account the annual differences in power supply cost. In their base rates set by the PUC, there is an amount included for power supply costs. But with water conditions, market conditions and purchase of PURPA resources, those amount fluctuate from year to year. This system was put in place to capture both the ups and downs in the market.

Representative Eskridge commented that with regard to a merchant plant selling to a utility, the utility cannot add on a rate of return to that purchase. He said that seems like a disincentive to a utility to enter into such an agreement. **Commissioner Smith** said that if the merchant plant was a qualifying PURPA project, the utility has a legal obligation to purchase power. She noted that this issue has been discussed because utilities sometimes get imputed debt from these projects when financial raters rate the company.

Representative Eskridge asked whether it would be reasonable to assume that even though they do not incur a risk that, there is a disincentive. **Commissioner Smith** stated that the utility risk would be that energy is not delivered but that would seem to be covered in their contracts. She suggested this might be a better question to ask the utilities. In her opinions all utilities are trying to have diversified portfolio so they want to purchase these types of projects.

Representative Eskridge asked, since the PURPA price is based on the avoided cost rate, why is there a published rate and a negotiated rate. Why not just have the negotiated rate based on avoided cost rate. **Commissioner Smith** commented that early on Idaho was an aggressive participant in PURPA and it was believed that the avoided cost rate would help smaller projects in dealing with utilities but that being able to negotiate the rate would be better for larger projects. **Representative Eskridge** asked whether it would protect the consumer from overpricing if a small project qualified for the published rate. **Commissioner Smith** said it should but it depends on how often the commission looks at published rate and currently the published rate is set on the surrogate avoided resource. That means what the next resource the utility would bring on. Without adjustment, the rate could get out of balance.

Representative Stevenson commented that it was his understanding that the PCAs were filed in April and asked whether the true up would reflect what happened during that year.

Commissioner Smith said that was correct and added that there is also a true up to the true up.

Senator Werk asked for clarification of how the PUC determines which kind of resource is going to be used to set the avoided cost rate and how the IRP from the utility is involved.

Commissioner Smith explained that the IRP methodology is for people negotiating a rate with the utility. **Senator Werk** asked whether the utility can get an adjustment if there is a difference between the PURPA and avoided costs as time goes on. **Commissioner Smith** said that a utility cannot lose money with PURPA. Once approved by the commission the amount of a PURPA contract is either included in base rate or in the avoided cost rate.

Senator Werk asked that since there are annual adjustments for fuel costs for PURPA projects, why do they not go to annual evaluation of PURPA rates completely. **Commissioner Smith** explained that the fuel adjustment is only for the variable portion of the rate. She stated that these cases are not easy and last time they looked at this it took two years.

Senator Werk asked, regarding intervenors, how residential customers get good representation in front of the PUC. **Commissioner Smith** said that the PUC staff is always looking out for consumers and are very interested in the rates being fair. She said there are also community action agencies and the PUC has an allowance of \$30,000 to \$40,000 to reimburse intervenors for the costs of these cases.

Senator Werk asked for information regarding how other state PUCs handle representing residential customers. **Commissioner Smith** said that many states have separate consumer councils divided from PUCs. She suggested increasing the amount of intervenor funding available would be a good place to start and noted that the recovery of that money is through the customer class that receives it.

Senator Tippets asked how prevalent consumer advocates are in other states. **Commissioner Smith** said probably at least half of the states have something like this. She said there were pros and cons relating to those systems compared to Idaho. According to **Commissioner Smith**, intervenor funding has sideboards around it that have contributed to the proceeding. A consumer advocate system has potential to be more effective because they are funded in advance and are permanent so they are able to develop expertise. She added that they can sometimes add adversity to the process.

Representative Eskridge asked, to the degree that large users are successful, whether that puts a burden on residential users. **Commissioner Smith** said not necessarily, the commission looks for fairness to all. She noted that large users might not be dealing with same issues that affect residential users.

In response to a question from **Representative Jaquet** regarding recommendations in the energy plan and PUC rules, **Commissioner Smith** asked for more time to respond. She did say she thought the PUC had sorted through all of the recommendations of the energy plan.

Mr. Seth Grigg, Idaho Association of Counties was introduced to inform the committee of current wind energy facility siting practices in Idaho and neighboring states and the siting of oil and gas projects in Idaho counties and the complexities that have arisen. His complete PowerPoint presentation is available at:
<http://www.legislature.idaho.gov/sessioninfo/2011/interim/energy.htm>.

Mr. Grigg explained that counties derive their energy siting authority from the Local Land Use and Planning Act or LLUPA (Title 67, Chapter 65, Idaho Code). This act specifically calls on counties to protect the health, safety and general welfare of the people of the state of Idaho. This includes protection of property rights, economies, the environment, production land (agriculture, forestry, mining), fish and wildlife and recreation.

To carry out these requirements, counties develop comprehensive plans that include analysis of natural land types, existing land covers and uses and the intrinsic suitability of lands for uses such as agriculture, forestry, mineral exploration and extraction, preservation, recreation, housing, commerce, industry and public facilities.

A key component to comprehensive planning is the development of county zoning ordinances that set forth the standards to regulate and restrict the height, number of stories, size, construct, reconstruction, alteration, repair or use of buildings and structures.

Mr. Grigg stated that land uses and development not included in a county comprehensive plan may be permitted through special use permits. These permits attach special conditions or requirements to particular developments.

Mr. Grigg moved on to discuss wind energy facility siting. He explained that Montana, Nevada, and Utah allow local jurisdictions to make siting decisions. Nevada law prohibits local governing boards from prohibiting or unreasonably restricting the use of systems for obtaining wind energy. In Oregon and Washington large energy facility siting decisions, including some wind facilities, are made by energy site evaluation committees sanctioned by the state and include local governing body representation and the local governing body retains siting authority for small scale alternative energy facilities.

Mr. Grigg stated that Wyoming is the only neighboring state with statutory wind energy siting standards. The base of the tower must be sited at a distance of at least 110% of height of tower from any property line or public road right-of-way. Towers cannot be constructed within 1,000 feet or five and one-half (5.5) times the height of the tower from any platted subdivision, residential dwelling, or occupied structure nor can they be constructed within one-half (1/2) mile from the limits of a city or town.

According the **Mr. Grigg**, eight counties in Idaho have enacted wind energy facility setback ordinances as follows:

- Bannock (1-3 times total height of turbine)
- Blaine (1.1 times total height of turbine)
- Bonneville (1 times total height of turbine + 10 feet)
- Cassia (1.5 times the total height of turbine)

- Fremont (1 times the total height of turbine)
- Jefferson (1 times the height of turbine)
- Madison (1 mile and 2-3 time total height of turbine)
- Power (1.2 times the total height of turbine)
- Bingham County is currently in the process of enacting a county wide wind energy siting ordinance

Counties with restricted development include:

- Blaine (mountain overlay and scenic byways)
- Bonneville (only permitted in overlay district)
- Cassia (historical preservation and outdoor recreation areas, only permitted on zoned ag or multiple use)
- Fremont (only residential turbines are permitted, not within 2 miles of scenic byway or registers of historic places)
- Jefferson (only permitted on zoned ag land in excess of 40 acres)
- Madison (not permitted within 1 mile of inhabited structures)

The following counties have noise ordinances:

- Bannock (45dbs)
- Bonneville (45dbs, estimate at least 1,800' setback, actual setback of development was 3,900')

Mr. Grigg noted that 45dbs is no louder than a quiet office setting.

In addition to these counties, several other counties have sited wind energy facilities using the special use permitting process set forth in the Idaho Code.

Mr. Grigg stated that the Idaho Association of Counties (IAC) believes that land use decisions and environmental policies made at federal, state and local levels must be clearly explained and that local residents have a voice in these decisions. IAC believes strategies that encourage and facilitate local participation should be incorporated in policy and plan development. IAC also supports procedures for energy facility and transmission permitting that respect federal and state responsibilities, regional impact and local concerns, and maintain siting authority at the local level.

Mr. Grigg explained the IAC recommends continuing to reserve alternative energy siting authority to county commissioners. For counties wanting assistance with the siting of wind energy facilities, the state may serve an advisory role. This is similar to the current practice of siting CAFOs where a site advisory team from the state provides assistance to counties requesting technical help to site CAFOs. In such instances a fee is collected from the applicant by the county and remitted to the state agency for the assistance.

Mr. Grigg went on to discuss oil and gas development in Idaho. He stated that natural gas exploration is currently ongoing in Canyon, Gem, Payette and Washington Counties with active wells in operation in Payette County. Currently no county has adopted ordinances governing the siting of natural gas facilities. He mentioned that Washington County is in the process of developing such an ordinance. In Payette County, existing facilities have been sited using the special use permitting process provided for the LLUPA.

Oil and gas exploration has long been underway in other western states including Colorado, Montana and Wyoming. In each state well drilling, plugging and operations standards fall under state jurisdiction. As with Idaho, there is uncertainty in statute regarding the role of local jurisdictions in siting these facilities. In Idaho, rulemaking authority over oil and natural gas drilling resides with the Oil and Gas Conservation Commission. This commission is given authority in statute (47-315, Idaho Code) to regulate the drilling and plugging of wells, shooting and treatment of wells, operation of wells and disposal of waste. The statute does not preempt local zoning ordinances as there is no specific preemptive language.

The lack of preemptive language allows for counties to enact zoning ordinances that restrict the location, manner of construction, and operation of oil and gas facilities, including wells. Furthermore LLUPA expressly states that if ordinances made under LLUPA impose higher standards than those required by statute or local ordinance, those ordinances made pursuant to LLUPA shall govern. State agencies are also directed to comply with LLUPA plans and ordinances unless otherwise provided by law.(67-6525, Idaho Code)

Mr. Grigg stated that this creates potential jurisdictional problems when dealing with oil and natural gas exploration and development. On one hand the state has statutory authority to regulate technical aspects of drilling, plugging, spacing and treatment of wells and on the other hand counties has statutory authority under LLUPA to regulate the location of areas zoned for oil and gas exploration as well as the manner in which oil and gas structures and facilities are constructed and operation.

He said the IAC has not adopted a formal policy statement or platform on oil and gas exploration in Idaho and that their members have differing viewpoints on how development should take place. In general IAC believes that each alternative for the development of new energy resources has advantages and disadvantages affecting resource depletion, alternative uses, visual impact, pollution and cost. IAC believes that planning and flexibility in project development promote optimum solutions that reduce overall impact and make the best use of all resources.

He concluded that IAC recommends including local elected officials in the rulemaking process and maintaining a mechanism in law for local elected officials to participate in the siting of oil and gas related development including wells, pipelines, refineries and other related facilities.

Representative Jaquet commented that the energy plan contained recommendations regarding siting review and asked whether IAC had held any discussions regarding this. **Mr. Grigg** said he was not aware of any but they would like siting to be left to local authorities. He said they would be willing to discuss this and come back to committee to give recommendations.

Representative Jaquet commented that most of these counties are dealing with these issues after a project has already been proposed and said she would like to see policy in the future that allows them to deal with things more proactively.

Representative Cronin asked whether the challenges surrounding oil and gas exploration are unique enough that siting should be treated separately from wind or solar. **Mr. Grigg** agreed that there are big differences and maybe they do need to be treated differently.

Representative Stevenson stated concern with the statement that gas and oil has greater environmental impact than wind or solar and cautioned using the environmental issues to impact or restrict the development of oil and gas. **Representative Stevenson** also noted that the overlap between state siting and county involvement is an area that should definitely be looked at.

Mr. Allen Christy, Director of the Elmore County Growth and Development Services was the next speaker. He stated that from a planning and zoning standpoint Elmore County recognizes energy in two ways; Energy Production and Energy Generation

Energy production includes hydrologic, biomass (coal or co-gen facility) and geothermal and projects are allowed in Elmore County's heavy industrial zone with a conditional use permit.

Energy generation includes wind, solar and natural gas. He said that energy generating facilities are allowed with conditional use permits in agriculture, and light and heavy industrial zones in Elmore County.

The county has not permitted an electrical production facility and all energy production facilities are grandfathered. (Anderson Ranch and Strike Dam).

Mr. Christy explained that Elmore County has 35 operating wind towers with an additional 14 more coming online soon. The county has also permitted a total of 70 more. These projects do require conditional use permits. This process involves conducting public hearings and making 12 required findings including harmony with surrounding neighboring uses and complying with all state and federal regulations. In Elmore County, the Planning and Zoning Commission is an approval body for conditional use permits however, grieved parties can appeal the decisions to the Board of Commissioners.

Mr. Christy said that in many cases a variance is also required for electrical generating facilities. The variances are generally for structure height or lot coverage. An agricultural zone height limit is 80 feet and ground coverage is 25%. These restrictions make it difficult to develop an electrical generating facility without a variance. He said the county is currently working on an ordinance amendment to deal with these issues. He commented that variances might not even be the best way to deal with these issues.

In addition to conditional use permits, electrical generating facilities have a number of other requirements that must be met relating to siting. The Elmore County Zoning and Development Ordinance requires that these facilities be placed 2,500 feet from any existing residence. (This can be waived if agreed to by the homeowner) The facilities cannot be within five miles of the Mountain Home Airforce Base or their flight corridors. Facilities must not be sited within Glenns Ferry or Mountain Home Airport influence areas. **Mr. Christy** said his department has taken the stance of asking applicants to get approval from the Air Base prior to submitting an application. They have also asked neighboring counties of Owyhee and Twin Falls to get Air Base approval before permitting wind towers so there is no conflict with existing or future military training ranges.

Mr. Christie stated that with geographical constraints and siting constraints and with the fact that the facilities are not being located on federal land, Elmore County is quite limited as to where the facilities can be located.

Mr. Christy went on to discuss concerns from the county regarding these facilities.

1. Decommissioning of facilities. He said that currently scrap metal is high enough so there is no problem but they are concerned what will happen in 30 to 50 years. Elmore County usually conditions some sort of agreement for decommissioning but other counties have chosen not to do this.
2. Air base and training ranges. This requires continued coordination with other counties into the future.
3. The huge unknown about what happens when large numbers of these facilities are placed together. Is there electromagnetic interference that can disrupt military jets and helicopters?
4. Timing and tactics of wind developers. **Mr. Christy** said that many wind developer seem to be in a hurry and they always have lawyers. He said they also like to use the clean and green energy argument to rush things or possible not meet requirements at all. He said that Elmore County has had to really make sure that agencies have at least 30 days to comment before a public hearing.
5. Highway district concerns of wear and tear on roads during construction. Glenns Ferry Highway District requires bonds in the event roads and bridges are damaged during construction. He said there has been pushback on this by developers.
6. Communication signals, mainly for gas lines. With the first 20 towers that were permitted under the old zoning ordinance, one of the blades blocked the radio signal for one of the gas lines. This could be a problem during an emergency with the gas line.

Mr. Christy concluded that Elmore County has had great success with local ordinances in permitting and siting electrical generating facilities

Senator Tippets asked for more information regarding the conditions put in place for the decommissioning the towers. **Mr. Christy** said that usually involves a memo of understanding on how plants will be decommissioned, either monetary consideration or some other way.

Representative Jaquet asked whether the permit fees cover the costs to do this in 30 days. **Mr. Christy** said they had raised fees this year so yes. **Representative Jaquet** asked about the expertise required to do this. **Mr. Christy** said they have an in house engineer and other staff.

Senator Werk commented on the nuclear power plant proposal that was unsuccessful in Elmore County and asked how they deal with different types of plants. **Mr. Christy** said that nuclear facilities fall under energy production and would only be allowed in heavy industrial zones and that is limited. **Senator Werk** clarified that the nuclear proposal was a rezone to use agricultural land. **Mr. Christy** said that was correct.

Mr. Mark Shigeta, Payette County Commissioner was introduced to discuss gas exploration in Payette County. He stated that gas exploration began in fall 2009 and the county had three projects approved with conditional use permits. He said they used conditional use permits

because they are specific to the project, land, people involved and so on. If any of those variables change, another permit is required. After approving the first three, Payette County kept calling different agencies to see if they were doing it correctly. Ultimately they passed an ordinance requiring a use agreement developed for gas operations and they were able to amend the existing projects agreements. These amendments also dealt with fracturing. To date Payette County has approved 15 wells and one well has extra conditions because it is in a DEQ zone for a municipal water source. Of the fifteen approved wells, eleven wells have been drilled, three have been non-productive, four will need stimulation and four are able to produce right now.

Representative Jaquet asked about the technical expertise used and how it is paid for. **Mr. Shigeta** said that the drillers assisted in payment of the engineering firm that helped them identify safeguards and currently the state is involved in rulemaking regarding this issue.

Senator Werk commented that once a well is drilled and moves into production, production is a whole new issue. He asked whether the county has ordinances in place for this. **Mr. Shigeta** said currently there is an issue of trying to hook all of those production wells together and the question of whether to rezone or use conditional use permits. He said the Payette County went with conditional use permits because the commissioners decided gas is a finite resource. **Senator Werk** asked whether the job of county commissioner was full time or part time. **Mr. Shigeta** said it was part time.

Mr. Grigg commented that the IAC steering committees will meet again in September and could discuss these issues at that time and come back to this committee to report on progress.

Mr. Mike Nugent, Legislative Services Office Staff distributed copies of the state oil and gas statutes for committee review.

The committee recessed at 3:40 p.m.

July 13, 2011

The meeting was reconvened at 8:20 a.m. on July 13, 2011 by Cochairman Representative George Eskridge. Other members present included Cochairman Senator Curt McKenzie, Senator Russ Fulcher, Senator Steve Bair, Senator John Tippetts, Senator Elliot Werk, Representative Maxine Bell, Representative Eric Anderson, Representative Jeff Thompson and Representative Wendy Jaquet. Ad hoc members present were Senator Dan Schmidt and Representative Brian Cronin. Senator Patti Anne Lodge, Representative Bert Stevenson and Representative Reed DeMordaunt were absent and excused. Legislative Services Office staff present included Mike Nugent, Ryan Bush and Toni Hobbs.

Others present at the July 13 meeting included John Williams, Bonneville Power Administration (BPA); Russell Westerburg, Rocky Mountain Power; Beth Markley and Pat Barclay, Idaho Council on Industry and Environment; Rich Hahn, Idaho Power; Patrick Hodges, George Bacon and Eric Wilson, Department of Lands; Peter Richardson, Exergy; Ben Otto, Idaho Conservation League; Lincoln Smyser, Connolly and Smyser; Nicole Swafford, Office of Energy Resources; Dar Olberding, Ridgeline Energy; Emily Patchin, Gallatin Public Affairs; Ray Houston,

Legislative Services Office; Bill Jarocki, Voltaic Solutions; Bob Neilson, Idaho Strategic Energy Alliance (ISEA); Kerry Ellen Elliott, Idaho Association of Counties; Shelly M. Davis, Barker Rosholt; Michael Christian and John Peiserich, Idaho Petroleum Council; Ryan Theilges; Representative Sue Chew; Brenda Tominaga, Idaho Irrigators and Pumpers Association; David Hawk, E2A; Kim Parsons, Bridge Energy; Richard Brown, Weiser-Brown Oil Company and Ken Miller, Snake River Alliance.

Mr. John Williams, Bonneville Power Administration (BPA) was the first speaker. His complete PowerPoint presentation “Overgeneration Conditions and Environmental Redispatch” is available at: <http://www.legislature.idaho.gov/sessioninfo/2011/interim/energy.htm>.

Mr. Williams stated that wind power and traditional generation resources during oversupply conditions is a very hot issue in the northwest United States. The challenge is reaching a balance with all affected parties. These parties include wind developers and related associations, hydro generators (both federal and nonfederal), coal and natural gas generators and other energy suppliers (solar and geothermal). These parties also include elected officials, regulatory officials, public citizen groups and nonprofit advocate groups.

Mr. Williams explained that BPA is a Northwest Regional Utility. They own 75% of high voltage transmission lines in the region and market power transmission at cost from 31 federal hydro dams and one nuclear power plant. He said they also obtain generation from nonfederal power plants including wind power.

During the past 15 years, BPA has been reorganized several times to keep pace with wholesale deregulation involving an ever changing landscape of market conditions (energy crises 2001/2002), bad /poor water conditions, fish and wildlife mitigation, resource adequacy issues (generation and transmission to meet region needs), reliability of transmission system, and today’s wind integration challenges. They have also faced internal reorganization to eliminate duplication of products and services and are involved in finding new financial and administrative methods and approaches to reduce external and internal cost.

With regard to transmission, BPA has made infrastructure improvements to improve system reliability. They have added a resource adequacy component to provide additional generation and transmission to meet the region’s power demands. This was done prerecession. BPA also created the Columbia Grid to improve the operational efficiency, reliability and planned expansion of the transmission grid.

BPA has entered into long-term (post 2011) power contracts to insure the lowest possible rates while resolving the Residential Exchange Program (20 year contracts, power allocation tier system).

Mr. Williams explained, with regard to fish and wildlife, that BPA is waiting for Judge Redden’s BiOp decision. He said the four lower snake river dams and their flexibility actually support wind integration, load following and peak demands as well as voltage regulation in meeting transmission system reliability. He commented that the cost to replace the power from

these dams would be about \$1.2 billion. These projects account for 1,022 average megawatts (aMW) compared to BPAs 27 years of conservation savings of 1,190 aMW in the northwest.

Wind energy projects in the BPA system have been curtailed to about 6.7% of their scheduled output since BPA began intermittent limits on coal, natural gas and other thermal and wind generation to help manage an oversupply of electricity during the highest Columbia River runoff in more than a decade.

Mr. Williams explained that BPA's environmental redispatch and negative pricing policy temporarily replaced some electric regeneration with free federal hydropower as a last resort when necessary to preserve system reliability, meet Clean Water Act and Endangered Species Act responsibilities to avoid increased risk to protect salmon from excess spill and to avoid inequitable cost shifts to BPA's northwest customers.

Representative Eskridge asked whether they are looking at curtailing natural gas and coal before looking at curtailing wind. **Mr. Williams** said that was correct. **Representative Eskridge** commented that makes sense because natural gas or coal can be stored but not wind. **Mr. Williams** said this was their also their policy before the wind challenge.

Senator Tippetts asked what type of power generation would replace the four lower snake dams if they were removed. **Mr. Williams** said it would be natural gas that is located near those four projects

Mr. Williams explained that BPA took many steps to avoid issuing an environmental redispatch policy. However, Columbia Basin runoff this year will likely be the highest since 1999.

In addition, BPA now has more than 3,500 megawatts of wind on its system. With this increase of wind power and high amounts of hydro generation, the Pacific Northwest is experiencing a surplus of electricity. He pointed out that over the years before deregulation, when there was surplus power available, BPA was able to sell that to other markets such as California. That allowed BPA to keep rates lower than normal. Now that wind is playing a more prominent role, that opportunity to sell to other markets will probably be reduced. In his opinion this will also be the case for Idaho Power.

Representative Eskridge asked for clarification of why wind will reduce their ability to sell surplus power to places like California. **Mr. Williams** explained that wind developers are also purchasing transmission lines. This is part of the wind integration costs. This means they are decreasing the amount of space available on the transmission highways to other areas such as California. **Senator Werk** said he understood how transmission restriction could be a problem but asked if, due to wind integration, BPA would need to reserve or conserve water in the system to give them more ability over the course of a longer period of time to ramp up generation when the wind falls off. **Mr. Williams** said that was correct. The problem is over the past year or so, there has been a huge influx of wind coming into the system so they have had to find more creative ways to balance and find reserves to back up or firm up wind. He noted that one reason BPA is able to build transmission is due to the fact that they are purchasing firm transmission contracts.

Electric loads and generation must always balance to maintain the reliability of the electrical grid. When generation exceeds regional loads, the difference must be exported, reduced or turned off.

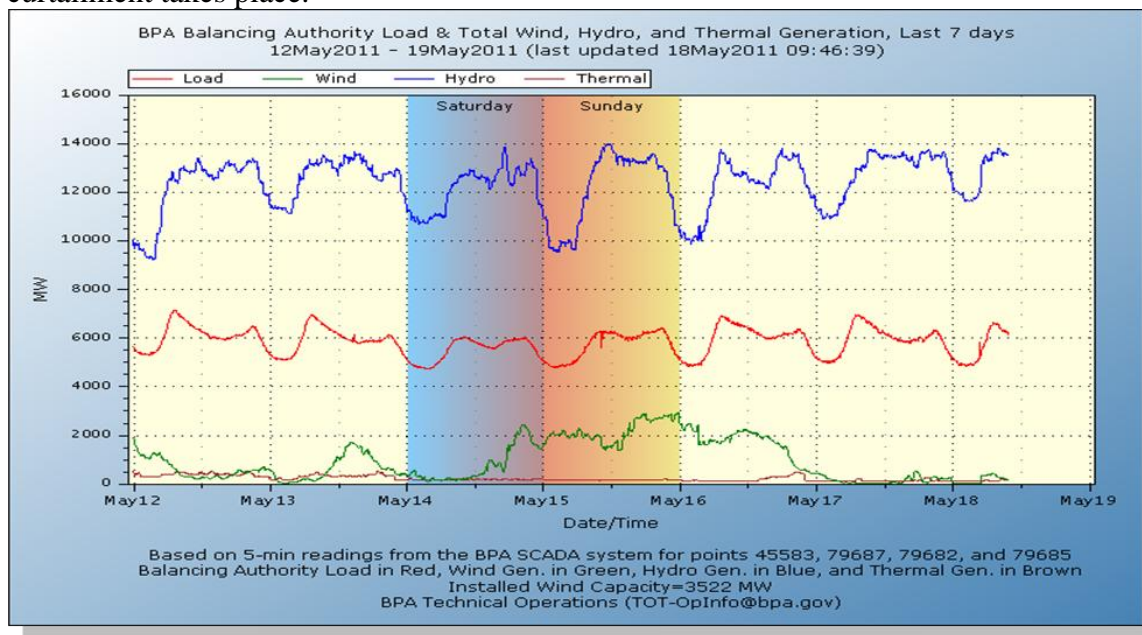
Mr. Williams reiterated that BPA now has more than 3,500 megawatts of wind generation connected to its transmission system. An additional 3,700 megawatts of wind generation now have firm transmission rights that could connect to their system over the next three to four years. Four years ago, a regional task force on wind integration believed that connecting 3,000 megawatts of wind to the BPA system could be achieved over a 20-year planning horizon.

BPA has built new transmission for wind integration and system reliability has moved ahead at an aggressive pace. Projects requiring an average build time of 10-12 years nationally have been completed by BPA in 4 to 5 years.

Senator Werk asked how regionalized the wind resources in their system are. **Mr. Williams** said the bulk of the wind generation is located in the Columbia River Gorge. **Mr. Williams** noted that BPA's balancing authority is the pacific northwest but that does not include Idaho. Idaho Power has the balancing authority here.

Mr. Williams explained that BPA has one of the highest concentrations of wind power on its system of any U.S. balancing authority (about 30 percent). BPA technical, policy and financial innovations to spur wind power are a significant reason why.

In response to several questions from **Senator Werk**, **Mr. Williams** explained that the slide below that shows BPA's balancing authority load and total wind, hydro and thermal generation for the period May 12, 2011 through May 19, 2011. He said this slide also shows includes when curtailment takes place.



Mr. Williams said the their wind integration teams continue to work on how to integrate wind more effectively. One of the items that has allowed wind integration to grow is improved wind forecasting that allow adjustments to be made more quickly. BPA is also involved with inter hour power sales; this allows wind to be sold in half-hour blocks instead of one hour blocks.

Representative Jaquet asked regarding the half-hour power sales for wind, how long it takes to shut down a turbine and what the costs are. **Mr. Williams** said he was not of the cost sure of that for ramp up and ramp down. He said that hydro is the most flexible and natural gas would be next. Coal and nuclear are more difficult. **Mr. Williams** said he would follow up with that information.

Representative Eskridge asked to what degree are reserves necessary to support or firm up that wind generation if they had the loads and 3,500 mw of wind was available on the system that is not all firm. In other words, do we have to have 3,500 mw of other power to firm up wind. **Mr. Williams** said it is not exactly one to one but they do have to have backup. He noted that one wind facility that is very large actually has generation of their own so they are going to self-supply.

Senator Bair asked what is available to firm up wind. **Mr. Williams** said that natural gas and coal generation facilities are available to help firm up wind. **Representative Eskridge** commented that the developers that are offering to help firm up wind are offering natural gas and coal resources but there could also be hydro. **Representative Anderson** added that there are also a lot of small entities outside of coal and hydro such as combine cycle sawmills and wood. He also confirmed that 97% of wind for BPA is in the Columbia River Gorge area.

Mr. Williams noted that much of the wind developed in the northwest is for California which is outside of BPA's balancing authority but they are working with California

Mr. Williams explained the economic benefits of wind development to the region as follows:

- \$30 to \$60 million annual tax revenues
- \$12 to \$30 million annual royalty payments
- 350 to 650 new permanent jobs
- Average of ~300 temporary construction jobs each year
- \$12 billion capital investment

Environmental benefits include reducing CO2 emissions by nearly 30 million tons with a 2011 reduction equivalent to removing one million cars and nitrogen oxide emissions would be reduced 450 tons.

Mr. Williams stated that even though there are many benefits to wind there are also costs involved. Those include:

- ▶ Utility procurement costs and associated rate impacts.
- ▶ Wind integration charges and balancing costs.
- ▶ Increasing wind generation lowering wholesale energy prices.
 - Lower prices benefit short buyers, hurt long sellers

- Council analysis suggests RPS resources reduce annual average wholesale market prices by 4-8%, as much as 20% during the spring.
- ▶ Possible increased wear and tear on balancing units, especially hydro.
- ▶ A better understanding of these impacts requires additional information and analysis.

Mr. Williams gave the following example of the environmental dispatch policy.

He explained that Washington and Oregon set total dissolved gas (TDG) standards under the Clean Water Act. The TDG limit is 110 percent for both states. But spill operations under the FCRPS Biological opinion are required to help fish migrate downstream and can sometimes generate TDG levels in excess of the 110 percent standard.

Consequently, Oregon and Washington provide “waivers” allowing higher TDG levels during fish migration season, April to August, to benefit ESA listed fish. For 2011, these spill operations have also been adopted by court order. The standards allow:

- For a 12-hour average, up to 120 percent total dissolved gas in project tailraces (the channel that carries water away from a dam).
- Washington has an additional limit of 115 percent at the project forebay (the portion of the reservoir at a hydroelectric plant immediately upstream of the generating station)

If high flows push TDG up to these limits, and if the other conditions listed in question five are present, BPA will implement environmental redispatch.

Mr. Williams said that before BPA asks generators to reduce their output they

- look that adjusting nonessential maintenance on transmission lines so that maximum capacity is available to carry large amounts of electric generation outside of the region.
- defer other nonessential scheduled hydro generation outages and maintenance activities.
- executes contracts with other power producers to sell low-cost hydroelectric power
- Implement spill at FCRPS projects per the U.S. Army Corps of Engineers spill priority list within prevailing water quality standards
- Ask their nuclear plant (Columbia Generating Station) to go offline for several days
- Look at pump storage

Representative Eskridge asked about the status of the challenge to BPA’s environmental dispatch policy by the wind developers that is before FERC and commented that, in his opinion what BPA is doing seems reasonable. **Mr. Williams** said that BPA have asked for extension in that challenge that was due July 19.

Representative Eskridge asked for a summary of the impact shutting down Centralia in Washington state will have. **Mr. Williams** said that BPA and other utilities are working together to replace that generation output with a variety of resources including conservation.

In conclusion **Mr. Williams** said that for mid to long-term solutions interregional transmission and large-scale energy storage (pump storage) could help. Both are capital intensive, and BPA is actively pursuing both. Both options would incur substantial costs, raising questions about who would invest in such solutions and who should pay for them.

BPA is working with Canadian and California utilities where possible to provide power to meet their load, while they hold water in reservoirs for later use to generate power. BPA is also working with the Bureau of Reclamation to evaluate additional energy storage potential at Banks Lake irrigation reservoir near Grand Coulee Dam and they are involved in two major smart grid demonstration projects that could help store additional energy through demand response and other techniques. Finally, they are exploring opportunities with Pacific Northwest National Laboratories to demonstrate grid-scale battery storage technologies.

Senator Werk said that as issues of integration with wind become more important and those demands increase, he would like to learn more about how integration of wind and firming it up actually works. **Representative Eskridge** commented that the Northwest Regional Power Conservation Council (NWPCC) was unable to attend meeting today but would like to have them provide some insight of this area at another meeting. **Mr. Williams** commented that the NWPCC members from Oregon along with Elliot Mizer, BPA's VP for Corporate Strategy are very involved in this issue and suggested having them speak at another meeting.

Representative Eskridge said it would also be helpful to have a presentation examining what the true cost of wind generation incorporating integration costs, transmission costs, reserves costs and so on. He said it would seem to be more than what is seen on the initial purchase price.

The committee moved on to a discussion of oil and gas exploration and development in Idaho.

Representative Eskridge explained that the Department of Lands is pursuing a rulemaking process in conjunction with oil and gas development in Idaho. This is creating concern on both sides of the issue from both developers and landowners and environmental groups. **Mr. Eric Wilson, Idaho Department of Lands (IDL)**, was introduced to begin the discussion. His complete PowerPoint presentation covers general information, location of wells, well construction, hydraulic fracturing and rulemaking and is available at: <http://www.legislature.idaho.gov/sessioninfo/2011/interim/energy.htm>.

Mr. Wilson stated that the first drilling permits were issued in late 2009. Drilling starting in early 2010 and gas discovery was announced in that same year. Seven wells can produce gas with four dry wells. He said there are more drilling applications pending. He noted that there was a spacing order approved in April in the two fields for one well per 160 acres. The default spacing is one well every 640 acres. Also in April, temporary rules for well treatment and hydraulic fracturing were approved to get them through the interim.

These wells are located at Willow Field that is north of the Payette River at the lower ends of Big and Little Willow Creeks and Hamilton Field, centered on New Plymouth Reservoir in Late Miocene to Pliocene age sands, about 3 to 9 million years old.

Representative Jaquet asked for clarification of the spacing order. **Mr. Wilson** explained that default spacing for gas wells is one well per square mile or 640 acres. When a discovery is made, they need to request spacing orders to maximize the efficiency of the gas extraction. If the wells are with too close together or too far apart, resources will be left in the ground or will be used inefficiently.

Mr. Wilson explained hydraulic fracturing is the process of injecting fluid and proppant (sand) into a formation under pressure to restore or create pathways for gas to flow to the well bore. He explained that Bridge Energy proposes to use about 714 barrels of fluid in their hydraulic fracture. **Senator Tippetts** said it was his understanding that there has not been any hydraulic fracturing done at this point. **Mr. Wilson** said that was correct. There are temporary rules in place but they have not received any applications. He is not sure when Bridge Energy will be making those applications.

Representative Jaquet commented that originally a \$100 permit fee is paid and asked whether there is a higher fee if it goes further and whether the new rules change the fees. **Mr. Wilson** said this is a sore point. He said he thinks they will collect another \$100 fee for the hydraulic fracturing permit because it is another application but the statutes have a \$100 fee in place so changes need to be made. He recommended that fees be increased up to \$2,000 to \$4,000 to cover their actual costs.

In response to another question from **Representative Jaquet** regarding fees that go to other agencies, **Mr. Wilson** said that included severance taxes of which 2% goes to the Tax Commission and up to 1/2 % goes to the Oil and Gas Commission (OGCC).

Mr. Wilson showed that the Bridge energy proposal is only about 3% of the size of the larger projects that are taking place back east called shale fracturing.

Safety features for the Bridge Energy project include a control center that is manned at all times. If the pressure goes up too much, the system is shut down. There are also some automatic kick-offs on their pumps and valves in case pressure starts to exceed the pressure stability of the system. The maximum pressure of the casing is about 6,700 psi so their maximum system pressure is set at 5,400 psi. The Bridge mini frack is designed at 15 to 35% of max or 2,400 psi.

Mr. Wilson went on to discuss the temporary rules that are in place for well treatment and hydraulic fracturing as follows:

- Application and approval by IDL required
- Application must be submitted to IDL prior to any well treatment.
- IDL will deny incomplete applications.
- Proper containment of treatment fluids, including special provisions if the containment area is within the delineated recharge area for public drinking water well systems.
- Assurances regarding the integrity of the well construction and pressure tests prior to hydraulic fracturing.
- Plans to protect ground water aquifers
- Disclosure of all substances used in a well treatment.
- The exclusion of all volatile organic compounds and petroleum distillates from injection into ground water during hydraulic fracturing.
- Reporting to IDL after a well treatment.
- Monitoring may be required.

Mr. Wilson stated that the fluid Bridge Energy plans to use is mostly water with guar for thickening, potash, soap, borax and vinegar. This fluid is used to get sand particles into the area

being treated. To get that sand to go down, there has to be a thick fluid. To get the fluid back out, other ingredients need to be added.

Other rule changes proposed include:

- Increasing minimum bond rates for single wells and blanket bonds.
- Requiring inactive wells to be covered by an individual bond instead of a blanket bond.
- Providing basic surface owner notification and damage compensation requirements.
- Providing more comprehensive minimum standards for casing and cementing.
- Requiring liners for all pits used for fluid storage or disposal.
- Requiring all holes to be logged.

Statutory changes would involve increasing drill application fees, limiting confidentiality of drill logs to one year, changing severance tax collection to allow the Tax Commission to collect both portions of the severance tax, update several definitions and addressing Class II injection wells.

An estimate of the income per well based on a ball park figure from Bridge Energy of a production amount of 1,000,000 cubic feet of gas given the price of the well head and various percentages Idaho's royalty would be approximately \$200,000 per well. **Mr. Wilson** said this should help the endowments quite a lot. The severance taxes to the Tax Commission at 2% would be about \$32,000 and the amount to the OGCC would be about \$8,000 per well.

Senator Bair asked whether severance taxes are collected on all production regardless of whether the project is on state or private land. **Mr. Wilson** said that was correct.

Representative Jaquet voiced her concerns with staffing and costs and restated his comment that this additional funding could cover 1/3 to 1/6 of the operating costs of the OGCC which is located under the Idaho Department of Lands. She asked about the lines of authority. **Mr. Wilson** explained that he is the Minerals Resource Manager for the Department of Lands.

In response to another question from **Representative Jaquet**, **Mr. Wilson** explained that for the spacing order, they evaluated the technical information Bridge Energy had regarding well pressures and what space would be appropriate. They did contract with a petroleum engineer company from Wyoming and had Bridge Energy deposit some of their .5% severance tax to cover some of the contracting costs.

Representative Jaquet asked whether these are domestic wells or is there a water right involved and what the role of DEQ and Water Resources is in this. **Mr. Wilson** said they are still trying to figure that out. The statutes for OGCC gives them specific authority to deal with oil and gas to the exclusion of all other agencies but there is overlap that has to be figured out.

Representative Jaquet said that the statute says do not waste resources but it does not address public interest issue such as clean water and other environmental issues. She asked whether they are looking at adding some value statements into the statute changes. **Mr. Wilson** said there are three main components in the statute that describe what the commission should do; conservation, protection of rights and protection of fresh water. He said the fresh water is not defined and that they will define that in rules. Given those mandates there is a provision in the statute that say if

anything conflicts, the conservation of oil and gas takes precedence. He said they have not thought to change that.

Senator Fulcher said that two wells are on state lands and asked about the distinction of state lands and endowment lands and what would be different. **Mr. Wilson** said that the wells are on state reserve mineral rights that are owned by endowments.

Senator Werk commented that the statute does not mention the protection of health and safety and asked whether this protection would be secondary to utilization of the resource. He suggested that maybe this needs to be addressed. **Mr. Wilson** stated that the protection of fresh water and how that related to health and safety could be addressed but in regards to emergency response plans and the like that is not their expertise. He thinks this would be an area where counties and cities could play a larger role.

In response to another question from **Senator Werk**, **Mr. Wilson** said that with regard to royalties, Idaho is similar to other states. There are a few that are higher. He said this is more the land board side of the issue rather than conservation. He said he would get that information for the committee.

Senator Werk asked whether there will be opportunity for local areas to add their additional rules and restrictions to the state rules are finalized. **Mr. Wilson** said that local jurisdictions cannot pass their own regulations once state rules are in place. The OGCC has been the permitting authority for these projects. If there is a body of regulation that the state occupies, local jurisdictions cannot pass their own regulations.

Senator Werk commented that the fracturing that will take place in Idaho is relatively small. He asked whether the rules being developed will apply no matter what size the fracking operation. **Mr. Wilson** said that was correct.

Senator Werk asked whether there were any draft rules that include authority for denying an application for drilling a well or for hydraulic fracturing. **Mr. Wilson** said there are provisions where an application could be denied if a project does not conserve the resource, protect groundwater and such.

Senator Werk whether a project could be denied if they were not adequately controlling the operation and were repeat violators of the rules. **Mr. Wilson** said that the only instance in any of their regulations where they have that ability deals with the state bond assurance fund for surface mining and placer mining. In this instance, if someone defaults and does not repay the state, they do not get any more permits. With regard to strictly permits, **Mr. Wilson** said he did not know of any other regulatory programs that have that authority.

Senator Werk asked whether disclosure of the fluid content is still required in the proposed rules. **Mr. Wilson** said that will still be required but that information is limited to what the contractor who does the actual fracking gives the permitting company. He said this information can be kept confidential under some circumstances but there would always be provisions to share that information with emergency responders when necessary.

Representative Cronin asked what resources the Department would want or need based on other states to handle the growing demands and ongoing monitoring of gas exploration and drilling. **Mr. Wilson** said that a \$150,000 appropriation or more would allow them to get at least two more trained full time people on staff. He noted that they are required to hire trained staff in order to get EPA funding and that it is difficult to predict the exact number of staff needed because it depends on the number of wells that are proposed.

Susie Budge, Idaho Petroleum Council was introduced as the next speaker. This presentation began with a short video illustrating how drilling and fracturing works. Their complete PowerPoint presentation is available at: .

Ms. Budge explained that the Idaho Petroleum Council had been recently formed due to the collective view that the industry needed a unified voice as these rules go forward and as Idaho develops public policy to protect the environment. She said this is a very exciting opportunity for Idaho because of the economic aspects of these projects and it also allows Idaho to look toward more energy independence with domestic production. She introduced members of the council; Richard Brown , Weiser-Brown/Snake River Oil and Gas, Kim Parsons, Exploration Manager of Bridge Resources and John Peiserich, Perkins and Trotter, Adjunct Professor of Oil and Gas Bowen School of Law, University of Arkansas.

Mr. Richard Brown discussed his background in the oil and gas industry in Idaho. He said that what Bridge has done in Idaho is outstanding. He said in this industry there is always a pioneer and in 30 years he has never seen a new basin discovered until this one. It took a lot of guts and a ton of money for them to do this. His company is the second company on the scene.

Ms. Kim Parsons, Exploration Manager of Bridge Resources was introduced as the next speaker.

Ms. Parsons said that the Idaho opportunity is unique. Bridge is the first exposure to an oil and gas company Idaho has seen in 25 years and they take that responsibility very seriously. She said they are trying to do this cleaner and more transparent than has been done in the past. She thanked the Department of Lands and Payette County for their efforts to respond to Bridge's requests. Things tend to move very quickly.

Ms. Parsons said that they believe that the Western Idaho Basin has potential to be an important part of solving our nation's energy challenges. She noted that Bridge has built 11 wells and seven of those are considered discoveries. She added that Bridge believes it has the first two commercial fields in the state.

Ms. Parsons reviewed the process of drilling and fracking that Bridge uses. **Representative Jaquet** expressed concern over a program on public television regarding a third party contractor that puts liquid into the well saying that what was in the liquid was proprietary and could not reveal what is in it. **Ms. Parsons** said that Bridge is transparent in what they put in the hole. She said they offer the OGCC to be able to test the liquid both before and after it is put in the hole.

Mr. John Peiserich, Perkins and Trotter, Adjunct Professor of Oil and Gas Bowen School of Law, University of Arkansas was introduced to discuss National Energy Policy. He commented that the goal of the National Energy Policy is national energy independence. Oil and gas meets over 60% of our national energy demands and oil and gas provide opportunities for economic growth.

Mr. Peiserich said the basin in Idaho being developed is predominantly a natural gas reservoir.

Mr. Peiserich said that the main topic of his discussion today was the regulatory framework. Currently in place are existing federal regulatory programs, Idaho has a state statute base on the Interstate Oil and Gas model statute. This was first enacted in the 1960s and updated in the 1990s. He commented that most oil and gas producing states have statutes similar to Idaho. He noted that our rules are quite a bit smaller than other states and that we probably have some catching up to do in that area. He added that the stakeholders are participating in negotiated rulemaking to improve existing IGCC rules.

Mr. Peiserich said that the reason the framework is important is because it ensures good compliance. If the framework is similar to what other states have, operators know what the expectation is and know how to comply. Rules with a lot of oddities creates a disincentive for operators due to the amount of unknowns.

Mr. Peiserich noted that regardless of whether a project involves hydraulic fracturing or if it just involves drilling a straight well, it could be subject to any of these existing federal rules:

- The Clean Water Act regulates surface water discharges and storm-water runoff.
- The Clean Air Act sets rules for air emissions from engines, gas processing equipment and other sources associated with drilling and production activities.
- The Safe Drinking Water Act regulates the disposal of fluid waste deep underground.
- The National Environmental Policy Act requires permits and environmental impact assessments for drilling on federal lands.
- The Occupational Safety and Health Act sets standards to help keep workers safe. These include requiring Material Safety Data Sheets be maintained and readily available onsite for chemicals used at that location.
- The Emergency Planning & Community Right-to-Know Act requires storage of regulated chemicals in certain quantities to be reported annually to local and state emergency responders.
- The National Pipeline Safety Act sets standards for pipeline construction, operation and maintenance administered by U.S. Department of Transportation.

Mr. Peiserich estimated the natural gas resources located in the Western Idaho Basin at 35.6 billion cubic feet plus 280,000 barrels of oil. At \$5.00 per mcf that equals about \$178,000,000 and the 280,000 barrels of oil at \$95.00 per barrel equals \$26,600,000 for a total revenue of \$206,600,000. That would bring about \$20 million in combined state and local taxes for Idaho.

He noted that there are other benefits in addition to taxes including a 12.5% royalty paid to the state for total production developed on state lands. In the Western Idaho Basin, about 25% of the

mineral estate is owned by the state. Based on the above number the total royalty to the state would be just under \$6.5 million.

Mr. Peiserich used the following example for Idaho:

- Bridge flowed one of its wells at 6 million cubic feet (MMCF) and 100 barrels (bbl) of condensate
- Economic Assumptions:
 - 20 wells
 - 5 MMCF/day gas and 100 bbl/day oil
 - \$5.00/mcf gas and \$95.00/bbl oil
 - Idaho Severance Tax = 2.05%
 - 25% State ownership of mineral estate
 - 12.5% State Royalty
- Severance Taxes to State
 - Gas Severance
 - \$10,250 per day
 - \$3, 741,250 per year
 - Oil Severance
 - \$3,895 per day
 - \$1,421,675 per year
- Total Severance Tax
 - \$5,162,925 in one year

Idaho State Royalties

- 100 million cubic feet (MMCF) per day production gas
- 2000 barrels (bbl) per day production oil
- 12.5% State Royalty
- 25% State Mineral Interest Ownership in Western Idaho Basin
- \$15,625 per day gas
- \$5,937 per day oil
- **\$5,700,000 per year to Idaho**

Economic Benefits to Idaho

- \$5,162,925 per year – Severance Tax
- \$5,700,000 per year – Royalty to Idaho
- PLUS
- Income Tax on Royalty to Private Landowners
- Sales Taxes
- Property Taxes
- Employment Taxes

In response to a question from **Senator Fulcher**, **Mr. Peiserich** said that the 12.5% royalty is what the Department of Lands has assigned and it is a standardized royalty. It is the historic number that is used in the oil and gas industry. **Senator Fulcher** said it would be interesting to know what the royalty percentage is for mining in Idaho. **Mr. Wilson** said royalties for minerals are much lower; 5% is a very good amount. He noted that BLM sets the royalty rate for phosphate; sand and gravel in Boise area get 80 cents per cubic yard. **Representative Eskridge**

asked whether 12.5% was an accurate and reasonable amount. **Mr. Wilson** said yes and **Mr. Peiserich** stated that Arkansas has 12.5% in statute.

Mr. Peiserich went on to say that in Idaho the environment is the most important issue and that includes water. He noted that the industry has existing physical mechanisms for protection of water including well casing, cement bond log, mechanical integrity testing, annulus pressure monitoring. There are also existing regulatory programs including federal rules and regulations and state rules and regulations that are currently being updated.

Mr. Peiserich explained that nine out of ten natural gas wells in America currently utilize the technique of hydraulic fracturing resulting in more than 600 trillion cubic feet of gas being brought to market and not one single confirmed case of drinking water contamination has ever been attributed to hydraulic fracturing. He noted that over 1 million wells have been “fracked” over the last 50 years with ever improving technology.

Senator McKenzie commented that the Idaho statute refers to “fresh water” and asked whether that is an industry term. **Mr. Peiserich** said that Idaho’s system is very similar to most states. All states have statutes relating to the degradation of water. He did suggest that the language in Idaho’s statute for fresh water is confusing and it was probably used because most natural gas existed in marine basin environments.

Senator Werk asked what would be considered a “confirmed case” with regard to drinking water contamination due to fracking. **Mr. Peiserich** commented that from an industry standpoint water contamination cases resulting from the oil industry have been related to surface activity and trucking operations having a spill. He said once the well is in place, he has not heard of any actual instances where fracturing process has contamination drinking or ground water. **Senator Werk** asked about a Duke study. **Mr. Peiserich** said that had very unique challenges and there was no baseline sampling and they measured for all gas instead of the difference between biogenic gas and thermogenic gas. He said that the industry would disagree with how well the study was done and what was discovered.

Senator Fulcher commented on the uniqueness of Idaho and where reserves are found. **Mr. Peiserich** agreed and explained that usually gas is formed in a marine environment (ocean or sea). In Idaho a big lake is where these reserves are but sea level is below the ground so it is very unique.

Ms. Budge said the Idaho Petroleum Council hopes to have their website up and running by the end of July.

It was noted that the Idaho Power 2011 IRP does not contain any large scale wind projects except for PURPA projects. **Mr. Rich Hahn, Idaho Power Company** said it might be helpful for the committee to have an overview of the plan (2011 IRP) at a future meeting.

The meeting was adjourned at 11:25 a.m.